

# Calendar No. 344

116TH CONGRESS  
1ST SESSION

# H. R. 617

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IN THE SENATE OF THE UNITED STATES

JULY 24, 2019

Received; read twice and referred to the Committee on Energy and Natural Resources

DECEMBER 17, 2019

Reported by Ms. MURKOWSKI, without amendment

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## AN ACT

To authorize the Department of Energy to conduct collaborative research with the Department of Veterans Affairs in order to improve healthcare services for veterans in the United States, and for other purposes.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*

3       **SECTION 1. SHORT TITLE.**

4       This Act may be cited as the “Department of Energy  
5       Veterans’ Health Initiative Act”.

6       **SEC. 2. DEFINITIONS.**

7       In this Act:

1                             (1) DEPARTMENT.—The term “Department”  
2 means the Department of Energy.

3                             (2) NATIONAL LABORATORY.—The term “Na-  
4 tional Laboratory” has the meaning given that term  
5 in section 2 of the Energy Policy Act of 2005 (42  
6 U.S.C. 15801).

7                             (3) SECRETARY.—The term “Secretary” means  
8 the Secretary of Energy.

9 **SEC. 3. PURPOSES.**

10          The purposes of this Act are to advance Department  
11 of Energy expertise in artificial intelligence and high-per-  
12 formance computing in order to improve health outcomes  
13 for veteran populations by—

14                             (1) supporting basic research through the appli-  
15 cation of artificial intelligence, high-performance  
16 computing, modeling and simulation, machine learn-  
17 ing, and large-scale data analytics to identify and  
18 solve outcome-defined challenges in the health  
19 sciences;

20                             (2) maximizing the impact of the Department  
21 of Veterans Affairs’ health and genomics data  
22 housed at the National Laboratories, as well as data  
23 from other sources, on science, innovation, and  
24 health care outcomes through the use and advance-

1       ment of artificial intelligence and high-performance  
2       computing capabilities of the Department of Energy;

3                     (3) promoting collaborative research through  
4       the establishment of partnerships to improve data  
5       sharing between Federal agencies, National Labora-  
6       tories, institutions of higher education, and non-  
7       profit institutions;

8                     (4) establishing multiple scientific computing  
9       user facilities to house and provision available data  
10      to foster transformational outcomes; and

11                    (5) driving the development of technology to im-  
12       prove artificial intelligence, high-performance com-  
13       puting, and networking relevant to mission applica-  
14       tions of the Department of Energy, including mod-  
15       eling, simulation, machine learning, and advanced  
16       data analytics.

17 **SEC. 4. DEPARTMENT OF ENERGY VETERANS HEALTH RE-**  
18                     **SEARCH AND DEVELOPMENT.**

19                    (a) IN GENERAL.—The Secretary shall establish and  
20       carry out a research program in artificial intelligence and  
21       high-performance computing, focused on the development  
22       of tools to solve big data challenges associated with vet-  
23       eran's healthcare, and to support the efforts of the De-  
24       partment of Veterans Affairs to identify potential health  
25       risks and challenges utilizing data on long-term health-

1 care, health risks, and genomic data collected from veteran  
2 populations. The Secretary shall carry out this program  
3 through a competitive, merit-reviewed process, and con-  
4 sider applications from National Laboratories, institutions  
5 of higher education, multi-institutional collaborations, and  
6 other appropriate entities.

7 (b) PROGRAM COMPONENTS.—In carrying out the  
8 program established under subsection (a), the Secretary  
9 may—

10 (1) conduct basic research in modeling and sim-  
11 ulation, machine learning, large-scale data analytics,  
12 and predictive analysis in order to develop novel or  
13 optimized algorithms for prediction of disease treat-  
14 ment and recovery;

15 (2) develop methods to accommodate large data  
16 sets with variable quality and scale, and to provide  
17 insight and models for complex systems;

18 (3) develop new approaches and maximize the  
19 use of algorithms developed through artificial intel-  
20 ligence, machine learning, data analytics, natural  
21 language processing, modeling and simulation, and  
22 develop new algorithms suitable for high-perform-  
23 ance computing systems and large biomedical data  
24 sets;

1                     (4) advance existing and construct new data en-  
2         claves capable of securely storing data sets provided  
3         by the Department of Veterans Affairs, Department  
4         of Defense, and other sources; and

5                     (5) promote collaboration and data sharing be-  
6         tween National Laboratories, research entities, and  
7         user facilities of the Department by providing the  
8         necessary access and secure data transfer capabili-  
9         ties.

10                 (c) COORDINATION.—In carrying out the program re-  
11         quired under subsection (a), the Secretary is authorized  
12         to—

13                     (1) enter into memoranda of understanding in  
14         order to carry out reimbursable agreements with the  
15         Department of Veterans Affairs and other entities in  
16         order to maximize the effectiveness of Department  
17         of Energy research and development to improve vet-  
18         erans' healthcare;

19                     (2) consult with the Department of Veterans  
20         Affairs and other Federal agencies as appropriate;  
21         and

22                     (3) ensure that data storage meets all privacy  
23         and security requirements established by the Depart-  
24         ment of Veterans Affairs, and that access to data is  
25         provided in accordance with relevant Department of

1       Veterans Affairs data access policies, including in-  
2       formed consent.

3           (d) REPORT.—Not later than 2 years after the date  
4       of the enactment of this Act, the Secretary shall submit  
5       to the Committee on Science, Space, and Technology and  
6       the Committee on Veterans' Affairs of the House of Rep-  
7       resentatives, and the Committee on Energy and Natural  
8       Resources and the Committee on Veterans' Affairs of the  
9       Senate, a report detailing the effectiveness of—

10              (1) the interagency coordination between each  
11       Federal agency involved in the research program  
12       carried out under this section;

13              (2) collaborative research achievements of the  
14       program; and

15              (3) potential opportunities to expand the tech-  
16       nical capabilities of the Department.

17           (e) FUNDING.—There are authorized to be appro-  
18       priated to the Secretary of Veterans Affairs to carry out  
19       this section \$27,000,000 during the period of fiscal years  
20       2020 through 2024.

21 **SEC. 5. INTERAGENCY COLLABORATION.**

22           (a) IN GENERAL.—The Secretary is authorized to  
23       carry out research, development, and demonstration activi-  
24       ties to develop tools to apply to big data that enable Fed-  
25       eral agencies, institutions of higher education, nonprofit

1 research organizations, and industry to better leverage the  
2 capabilities of the Department to solve complex, big data  
3 challenges. The Secretary shall carry out these activities  
4 through a competitive, merit-reviewed process, and con-  
5 sider applications from National Laboratories, institutions  
6 of higher education, multi-institutional collaborations, and  
7 other appropriate entities.

8 (b) ACTIVITIES.—In carrying out the research, devel-  
9 opment, and demonstration activities authorized under  
10 subsection (a), the Secretary may—

11 (1) utilize all available mechanisms to prevent  
12 duplication and coordinate research efforts across  
13 the Department;

14 (2) establish multiple user facilities to serve as  
15 data enclaves capable of securely storing data sets  
16 created by Federal agencies, institutions of higher  
17 education, nonprofit organizations, or industry at  
18 National Laboratories; and

19 (3) promote collaboration and data sharing be-  
20 tween National Laboratories, research entities, and  
21 user facilities of the Department by providing the  
22 necessary access and secure data transfer capabili-  
23 ties.

24 (c) REPORT.—Not later than 2 years after the date  
25 of the enactment of this Act, the Secretary shall submit

1 to the Committee on Science, Space, and Technology of  
2 the House of Representatives and the Committee on En-  
3 ergy and Natural Resources of the Senate a report evalu-  
4 ating the effectiveness of the activities authorized under  
5 subsection (a).

6 (d) FUNDING.—There are authorized to be appro-  
7 priated to the Secretary of Energy to carry out subsection  
8 (a) \$15,000,000 for each of the fiscal years 2020 through  
9 2023.



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